

What I claim is:

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1. A vehicle suspension system, particularly for road and off-road ones, comprising springs, distinguished for the fact that the suspension system comprises at least one flat or spatial four-link mechanism (K), (M), (W) and (D), three kinematic pairs of which are rotational ones while the fourth one is either a rotational or a sliding one, wherein two links are made in the form of eccentric and one link is made in the form of eccentric or slider, wherein one of the links of said mechanism is coupled with a vehicle wheel, the other one is coupled with a spring (S), and the whole mechanism is fastened to a vehicle frame through yet another link of said mechanism, to obtain non-linear dependence of deformation of the spring on the vehicle wheel flex.

2. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said body (K) being fastened to a vehicle frame, and said shaft (W) being coupled rigidly with a wheel arm, and wherein the disc (D) is coupled with one end of the spring (S) the other end of which is fixed to the body (K) or directly to the vehicle frame, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism are parallel to each other.

3. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said disc (D) being coupled rigidly with a wheel arm, and said shaft (W) being coupled with one end of a spring (S) the other end of which is fixed to the body (K) or directly to a vehicle frame, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism are parallel to each other.

4. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism contains a shaft (W) fitted with a flange (Z) and an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot in a body (K), said

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shaft (W) being fastened to a vehicle frame through the flange (Z), said intermediate eccentric (M) being coupled rigidly with a vehicle wheel arm (H), and said body (K) being coupled rigidly with one end of a spring (S) the other end of which is fixed to the shaft (W) or directly to the vehicle frame, assuming the axes of rotation of all the kinematic pairs of the suspension mechanism are parallel to each other.

5. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said body (K) being fastened to a vehicle frame, said shaft (W) being coupled rigidly with a vehicle wheel arm, and the intermediate eccentric (M) being coupled with one end of an U-shaped torsion bar the other end of which is fixed to the intermediate eccentric of an analogous mechanism of a suspension of the other wheel, assuming the axes of rotation of all the kinematic pairs of the suspension mechanism are parallel to each other.

6. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said body (K) being fastened to a vehicle frame, said shaft (W) being coupled rigidly with a wheel arm, and said disc being coupled with one end of a spring (S) the other end of which is fixed to the body (K) or directly to the vehicle frame, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism intersect at a precisely one point P, to obtain a required position of the spring relative to the vehicle wheel.

7. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said disc (D) being coupled rigidly with a wheel arm, said shaft (W) being coupled with one end of a spring (S) the other end of which is fastened to the body (K) or directly to a vehicle frame, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism intersect

at a precisely one point P, to obtain a required position of the spring relative to the vehicle wheel.

8. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism comprises a shaft (W) fitted with a flange (Z) and an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot in a body (K), said shaft (W) being fastened to a vehicle frame with the help of the flange (Z), said intermediate eccentric (M) being coupled rigidly with a wheel arm, and said body (K) being coupled rigidly with one end of a spring (S) the other end of which is fixed to the shaft (W) or directly to the vehicle frame, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism intersect at a precisely one point P, to obtain a required position of the spring relative to the vehicle wheel.

9. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism, as its four links, comprises a shaft (W) fitted with an eccentric (MW), the latter being coupled rotationally with an intermediate eccentric (M), the latter being coupled rotationally with a disc (D), wherein the shaft (W) and the disc (D) pivot directly in a body (K), said body (K) being fastened to a vehicle frame, said shaft (W) being coupled rigidly with a vehicle wheel arm and said intermediate eccentric (M) being coupled with one end of an U-shaped torsion bar the other end of which is fixed to the intermediate eccentric of an analogous mechanism of a suspension of the other wheel, assuming the axes of rotation of all the kinematic pairs of said suspension mechanism intersect at a precisely one point P, to obtain a required position of the spring relative to the vehicle wheel.

10. A vehicle suspension system according to claim 1, distinguished for the fact that the suspension mechanism comprises a shaft (W) fitted with three eccentrics (MW1), (MW2) and (MW3), the latter being coupled rotationally with corresponding intermediate eccentrics (M1), (M2) and (M3), the latter being coupled rotationally with corresponding sliders (D1), (D2) and (D3), wherein the shaft (W) pivots directly in a body (K), and the sliders (D1), (D2) and (D3) are sliding fitted in the body (K), said body (K) being fastened to a vehicle frame, the slider (D2) being coupled with a vehicle axle and the sliders (D1) and (D3) being coupled with a spring, which, in turn, is fastened to the vehicle frame.

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